

**REMARKS:**

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 are currently pending in the subject Application.

Claims 2, 3, 9, 10, 16, 17, 24, 30, 36, and 42 have been previously canceled without *prejudice*.

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over U.S. Patent No. 6,047,290 to Kennedy et al. ("Kennedy") in view of U.S. Patent Publication No. 2002/0156663 to Weber et al. ("Weber").

Initially, the Applicants respectfully note that *Weber*, which published on 24 October 2002, was filed on 13 July 2001. The subject Application was filed on 4 December 2001. The Applicants believe, however, that the Applicants will be able to satisfy the requirements of 37 C.F.R § 131 by filing a declaration showing a completion of the present invention prior to 13 July 2001, and respectfully reserve Applicants right to do so in the future during the pendency of the subject Application.

In addition, although *Weber* claims priority to provisional application no. 60/218,640, filed on 13 July 2001, the Applicants respectfully submit that the provisional application does not contain all of the disclosure of *Weber*. However, if the Examiner intends to rely on one the filing dates of the provisional application, then the Applicants respectfully request that a showing under MPEP 2136.03 be made that "the provisional application(s) properly supports the subject matter relied upon to make the rejection".

The Applicants also believe, however, that the present invention is not disclosed or fairly suggested by *Weber*, and therefore, transverses the rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 for at least the reasons recited below.

The Applicants respectfully submit that all of the Applicants arguments and amendments are without *prejudice* or *disclaimer*. In addition, the Applicants have merely discussed example distinctions from the cited prior art. Other distinctions may exist, and

as such, the Applicants reserve the right to discuss these additional distinctions in a future Response or on Appeal, if appropriate. The Applicants further respectfully submit that by not responding to additional statements made by the Examiner, the Applicants do not acquiesce to the Examiner's additional statements. The example distinctions discussed by the Applicants are considered sufficient to overcome the Examiner's rejections. In addition, the Applicants reserve the right to pursue broader claims in this Application or through a continuation patent application. No new matter has been added.

**REJECTION UNDER 35 U.S.C. § 103(a):**

Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 stand rejected under 35 U.S.C. § 103(a) over *Kennedy* in view of *Weber*.

As discussed above, the Applicants respectfully reserve the right to satisfy the requirements of 37 C.F.R § 131 by filing a declaration showing a completion of the present invention prior to 13 July 2001, in the future during the pendency of the subject Application. However, the Applicants believe that the present invention is not disclosed or fairly suggested by *Weber*, and therefore, transverses the rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 for at least the reasons recited below.

The Applicants respectfully submit that *Kennedy* or *Weber*, either individually, or in combination, fail to disclose, teach, or suggest each and every element of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43. Thus, the Applicants respectfully traverse the Examiner's obvious rejection of Claims 1, 4-8, 11-15, 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) over the proposed combination of *Kennedy* and *Weber*, either individually or in combination.

**The Proposed *Kennedy-Weber* Combination Fails to Disclose, Teach, or Suggest Various Limitations Recited in Applicants Claims**

For example, with respect to independent Claim 8, this claim recites:

***A system for generating a supply chain plan*, comprising:**

*a database* operable to store data describing a supply chain network comprising a plurality of buffers, each buffer being operable to store a plurality of items and associated with a corresponding time variable, the supply chain network constrained by a constraint;

*a linear programming optimizer coupled to the database* and operable to:

*generate a linear programming problem* for the supply chain network;

*approximate the linear programming problem* by *discretizing the time variables* of the buffers to *yield a plurality of discretized time variables* and by *relaxing the constraint to yield a relaxed constraint*; and

*calculate an optimized supply chain plan for the approximated linear programming problem*, the optimized supply chain plan describing a quantity of items at each buffer for at least one time value of the corresponding time variable and *including a list of producers operable to supply the items to each buffer*; and

*a heuristic solver* coupled to the database and operable to adjust the optimized supply chain plan to satisfy the constraint, wherein the heuristic solver is operable to adjust the optimized supply chain plan by:

repeating the following until a last upstream buffer is reached:

*selecting a buffer;*

*adjusting one of (a) the quantity of items at the selected buffer, and (b) at least one time value of the time variable of the selected buffer to satisfy the constraint; and*

*proceeding to a next upstream buffer; and*

repeating the following until a last downstream buffer is reached:

*selecting a buffer;*

*planning production to either (a) supply the items to the selected buffer at the adjusted time value, or (b) supply the adjusted quantity of items to the selected buffer; and*

*proceeding to a next downstream buffer; and*

*an order planner* coupled to the database and operable to *generate an order plan by planning production to supply the quantity of items to each buffer according to the list of producers associated with the buffer.* (Emphasis Added).

In addition, *Kennedy* or *Weber*, either individually or in combination, fail to disclose each and every limitation of independent Claims 1, 15, 22, and 23.

The Applicants respectfully submit that *Kennedy* fails to disclose, teach, or suggest independent Claim 8 limitations regarding a "**system for generating a supply**

*chain plan*" and in particular, *Kennedy* fails to disclose, teach, or suggest independent Claim 8 limitations regarding an "*order planner*" coupled to the database and operable to *generate an order plan by planning production to supply the quantity of items to each buffer according to the list of producers associated with the buffer.*" Specifically, the Examiner asserts:

The optimized supply chain is produced by upstream and downstream planning, where producers are assigned to buffers to supply the items to the buffers. A *production plan* is generated by associating producers with specific buffers to supply end items to consumers. (8 June 2007 Office Action, Pages 6-7).

However, in the previous Office Action, the Applicants respectfully stated that the Applicants were unable to find the above assertion in *Kennedy*, as alleged by the Examiner. However, in response, the Examiner has not provided the specific citation to *Kennedy* for the above Examiner's assertion. The Applicants respectfully request clarification.

In particular, the Applicants respectfully request clarification as to what *production plan* the Examiner is referring to, how this *production plan* is related to *Kennedy*, how this *production plan* is related to the "*order planner*", as recited in independent Claim 8, and furthermore how this *production plan* is related to the subject Application.

The Applicants respectfully request clarification as to how the Examiner arrives at the above assertion. The Applicants further respectfully request the Examiner to point to the portion of *Kennedy* which contains the disclosure, teaching, or suggestion, as asserted by the Examiner. The Examiner may call the undersigned, Steven J. Laureanti, at (480) 830-2700 if the Examiner believes that it would be easier to discuss the source of confusion over the phone.

**The Office Action Acknowledges that *Kennedy* Fails to Disclose Various Limitations Recited in Applicants Claims**

The Applicants respectfully submit that the Office Action acknowledges, and the Applicants agree, that *Kennedy* fails to disclose the emphasized limitations noted above in independent Claim 8. Specifically the Examiner acknowledges that *Kennedy* fails to disclose “*that the algorithm used for the supply chain network is a generated linear programming problem, approximating this linear programming problem by discretizing the time variables of the buffers to yield a plurality of discretized time variables and by relaxing the constraint to yield a relaxed constraint, or calculating an optimized supply chain plan for the approximated linear programming problem.*” (8 June 2007 Office Action, Page 5). (Emphasis Added). However, the Examiner asserts that the cited portions of *Weber* disclose the acknowledged shortcomings in *Kennedy*. The Applicants respectfully disagree and respectfully traverse the Examiner’s rejection.

The Applicants respectfully submit that *Weber* fails to disclose, teach, or suggest Applicants claim limitations regarding a system, method, or logic “**for generating a supply chain plan**” and in particular *Weber* fails to disclose, teach, or suggest independent Claim 8 limitations regarding a “**linear programming optimizer coupled to the database**” operable to “**generate a linear programming problem** for the supply chain network”. Rather *Weber* merely discloses the “supply chain is then optimized using **linear programming** if the supply chain does not include multi-tiered pricing”. (Paragraph 18). In addition, although, the Examiner appears to be equating the “**linear programming**” recited in independent Claim 8 with the “**linear programming**” disclosed in *Weber*, (8 June 2007 Office Action, Page 6), however, the Examiner is silent as to whether *Weber* or *Kennedy* teaches, suggests, or even hints at a “**linear programming optimizer coupled to the database**” operable to “**generate a linear programming problem** for the supply chain network”, as recited in independent Claim 8. Thus, *Weber* or *Kennedy*, either individually or in combination, cannot provide for **generating a linear programming problem** for the supply chain network, since *Weber* or *Kennedy* does not even provide for a **linear programming optimizer coupled to a database**, in the first place.

The Applicants further respectfully submit that *Weber* fails to disclose, teach, or suggest independent Claim 8 limitations regarding a "*linear programming optimizer coupled to the database*" operable to "*approximate the linear programming problem* by *discretizing the time variables* of the buffers to *yield a plurality of discretized time variables* and by *relaxing the constraint to yield a relaxed constraint*". In addition, as discussed above, *Weber* fails to disclose, teach, or suggest a "*linear programming optimizer coupled to the database*" as recited in independent Claim 8. However, the Examiner appears to be equating "*approximat[ing] the linear programming problem*" recited in independent Claim 8 with "calculating an optimized solution supply plan for the approximated linear programming problem" allegedly disclosed in *Weber*. (8 June 2007 Office Action, Page 6). However, "*approximat[ing] the linear programming problem*" recited in independent Claim 8, is provided by "*discretizing the time variables* of the buffers to *yield a plurality of discretized time variables* and by *relaxing the constraint to yield a relaxed constraint*". Thus, *Weber* cannot provide for *approximat[ing] the linear programming problem*, since *Weber* does not even provide for *discretizing the time variables* of the buffers to *yield a plurality of discretized time variables* or even provide for *relaxing the constraint to yield a relaxed constraint*, in the first place.

#### **The Office Action Fails to Properly Establish a *Prima Facie* case of Obvious over the Proposed *Kennedy-Weber* Combination**

The Applicants respectfully submit that the Office Action fails to properly establish a *prima facie* case of obviousness based on the proposed combination of *Kennedy* or *Weber*, either individually or in combination. The Office Action has not shown the required teaching, suggestion, or motivation in these references or in knowledge generally available to those of ordinary skill in the art at the time of the invention to combine these references as proposed. The Office Action merely states that "it would be obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques, such as LP relaxation techniques, taught by *Weber*". (8 June 2007 Office Action, Page 6). The Applicants respectfully disagree.

The Applicants further respectfully submit that this purported advantage relied on by the Examiner is nowhere disclosed, taught, or suggested in *Kennedy* or *Weber*, either individually or in combination. The Examiner asserts that the motivation to combine the references as proposed would be “in order to increase the efficiency of obtaining an optimal solution, yielding a solution that allows a user ***to make tactical and strategic decisions.***” (8 June 2007 Office Action, Pages 6-7). (Emphasis Added). The Applicants respectfully disagree and further respectfully request clarification as to how the Examiner arrives at this conclusion. For example, how does “***mak[ing] tactical and strategic decisions***” provide for obtaining an optimal solution and to what extent does the Examiner purport that this “***mak[ing] tactical and strategic decisions***” actually applies to the subject Application. ***The Applicants respectfully request the Examiner to point to the portions of Kennedy or Weber which contain the teaching, suggestion, or motivation to combine these references for the Examiner’s stated purported advantage.*** The Applicants further respectfully submit that the Examiner is using the subject Application as a template to formulate reconstructive hindsight, which constitutes impermissible use of hindsight under 35 U.S.C. § 103(a).

In addition, the Examiner asserts that the motivation to combine the references as proposed is that *Kennedy* or *Weber* are concerned with optimally solving supply chain networks in the best possible way.” (8 June 2007 Office Action, Page 6). However, as the Examiner has pointed out in a previous Office Action, “obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is ***some teaching, suggestion, or motivation to do so found either in the references themselves*** or in the knowledge generally available to one of ordinary skill in the art.” (12 December 2006 Office Action, Pages 17-18). (Emphasis Added). With respect to the subject Application, the Examiner has only asserted that the references are “concerned with optimally solving supply chain networks in the best possible way”. The Applicants respectfully submit that, even if this was true, which it is not, it is clearly not, there is still ***no teaching, suggestion, or motivation*** to combine or modify the teachings of either *Kennedy* or *Weber* to establish a *prima facie* case of obviousness.

A recent Federal Circuit case makes it crystal clear that, in an obviousness situation, the *prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art*. *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). (Emphasis Added). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35. With respect to the subject Application, the *Examiner has not adequately supported the selection and combination of Kennedy or Weber to render obvious the Applicants claimed invention*. The Examiner's conclusory statements that "it would be obvious to one of ordinary skill in the art at the time of the invention to use the OR techniques, such as LP relaxation techniques, taught by Weber" and "in order to increase the efficiency of obtaining an optimal solution, yielding a solution that allows a user *to make tactical and strategic decisions*", *does not adequately address the issue of motivation to combine*. (8 June 2007 Office Action, Pages 6-7). This factual question of motivation is material to patentability, and cannot be resolved on subjective belief and unknown authority. *Id.* It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher." *W.L. Gore v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983). Thus, *the Office Action fails to provide proper motivation for combining the teachings of Kennedy or Weber*, either individually or in combination.

**The Applicants Claims are Patentable over the Proposed Kennedy-Weber Combination**

The Applicants respectfully submit that independent Claim 8 is considered patentably distinguishable over the proposed combination of *Kennedy* and *Weber*. This being the case, independent Claims 1, 15, 22, and 23 are also considered patentably distinguishable over the proposed combination of *Kennedy* and *Weber* for at least the reasons discussed above in connection with independent Claim 8.

With respect to dependent Claims 4-7, 11-14, 18-21, 25-29, 31-35, 37-41 and 43: Claims 4-7 and 25-29 depend from independent Claim 1; Claims 11-14 and 31-35 depend

from independent Claim 8, Claims 18-21 and 37-41 depend from independent Claim 15; and Claim 43 depends from independent Claim 23. As mentioned above, each of independent Claims 1, 8, 15, 22, and 23 are considered patentably distinguishable over the proposed combination of *Kennedy* and *Weber*. Thus, dependent Claims 4-7, 11-14, 18-21, 25-29, 31-35, 37-41 and 43 are considered to be in condition for allowance for at least the reason of depending from an allowable claim.

The Applicants respectfully submit that Claims 1, 4-8, 11-15, and 18-23, 25-29, 31-35, 37-41, and 43 are not rendered obvious by the proposed combination of *Kennedy* and *Weber*. The Applicants further respectfully submit that Claims 1, 4-8, 11-15, and 18-23, 25-29, 31-35, 37-41, and 43 are in condition for allowance. Thus, the Applicants respectfully request that the rejection of Claims 1, 4-8, 11-15, and 18-23, 25-29, 31-35, 37-41, and 43 under 35 U.S.C. § 103(a) be reconsidered and that Claims 1, 4-8, 11-15, and 18-23, 25-29, 31-35, 37-41, and 43 be allowed.

**THE LEGAL STANDARD FOR OBVIOUSNESS REJECTIONS UNDER 35 U.S.C. § 103:**

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, ***there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings.*** Second, there must be a reasonable expectation of success. Finally, ***the prior art reference*** (or references when combined) ***must teach or suggest all the claim limitations.*** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, ***and not based on applicant's disclosure.*** *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); M.P.E.P. § 2142. Moreover, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 U.S.P.Q. 580 (CCPA 1974). If an independent claim is nonobvious under 35 U.S.C. § 103, then any claim depending therefrom is nonobvious. *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988); M.P.E.P. § 2143.03.

With respect to alleged obviousness, ***there must be something in the prior art as a whole to suggest the desirability***, and thus the obviousness, of making the combination. *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561 (Fed. Cir. 1986). In fact, the absence of a suggestion to combine is dispositive in an obviousness determination. *Gambro Lundia AB v. Baxter Healthcare Corp.*, 110 F.3d 1573 (Fed. Cir. 1997). The mere fact that the prior art can be combined or modified does not make the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990); M.P.E.P. § 2143.01. The consistent criterion for determining obviousness is whether the prior art would have suggested to one of ordinary skill in the art that the process should be carried out and would have a reasonable likelihood of success, viewed in the light of the prior art. Both the suggestion and the expectation of success must be founded in the prior art, not in the Applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991); *In re O'Farrell*, 853 F.2d 894 (Fed. Cir. 1988); M.P.E.P. § 2142.

A recent Federal Circuit case makes it clear that, in an obviousness situation, the prior art must disclose each and every element of the claimed invention, and that any motivation to combine or modify the prior art must be based upon a suggestion in the prior art. *In re Lee*, 61 U.S.P.Q.2d 1430 (Fed. Cir. 2002). Conclusory statements regarding common knowledge and common sense are insufficient to support a finding of obviousness. *Id.* at 1434-35.

**CONCLUSION:**

In view of the foregoing amendments and remarks, this application is considered to be in condition for allowance, and early reconsideration and a Notice of Allowance are earnestly solicited.

Although the Applicants believe no fees are deemed to be necessary; the undersigned hereby authorizes the Commissioner to charge any additional fees which may be required, or credit any overpayments, to **Deposit Account No. 500777**. If an extension of time is necessary for allowing this Response to be timely filed, this document is to be construed as also constituting a Petition for Extension of Time Under 37 C.F.R. § 1.136(a) to the extent necessary. Any fee required for such Petition for Extension of Time should be charged to **Deposit Account No. 500777**.

**Please link this application to Customer No. 53184 so that its status may be checked via the PAIR System.**

Respectfully submitted,

10 September 2007

Date

/Steven J. Laureanti/signed

Steven J. Laureanti, Registration No. 50,274

BOOTH UDALL, PLC  
1155 W. Rio Salado Pkwy., Ste. 101  
Tempe AZ, 85281  
214.636.0799 (mobile)  
480.830.2700 (office)  
480.830.2717 (fax)  
[steven@boothudall.com](mailto:steven@boothudall.com)

**CUSTOMER NO. 53184**